Natural Solar: Production of Biofriendly Naturally Produced Solar Panels

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Solar energy is a major source of electrical energy in the world, but the existing solar cells can be potentially dangerous, using mercury and other heavy metals that can be dangerous in large quantities. There are alternatives, however, as solar cells are primarily reflective and conductive units used to absorb the sun's energy, as well as Ultraviolet light and other forms of light energy. This project's focus is on developing an environmentally friendly, efficient solar cell energy collector using mica, copper mesh, graphene/graphite and collector angle. To conduct this experiment, paper origami cells were produced as templates. The templates were then overlaid with copper mesh. A clear glue based polymer was then produced to adhere different colors and densities of mica over the top of the cells. Conductive additives were then added to the cells to increase conductivity. It was determined that the designs actually did produce electricity, and the electrical conductivity was enhanced by graphite/graphene additives. The most effective design were the miurafold designs that provided more reflective surface area to the light source, therefore collecting more light energy. The miurafold and circular designs also provided more surface area to different angles while being stationary. A more absorbent background for light energy and more light energy deflection is warranted for design improvement.

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